

California Antique Radio Gazette

Official Journal, Southern California Antique Radio Society.

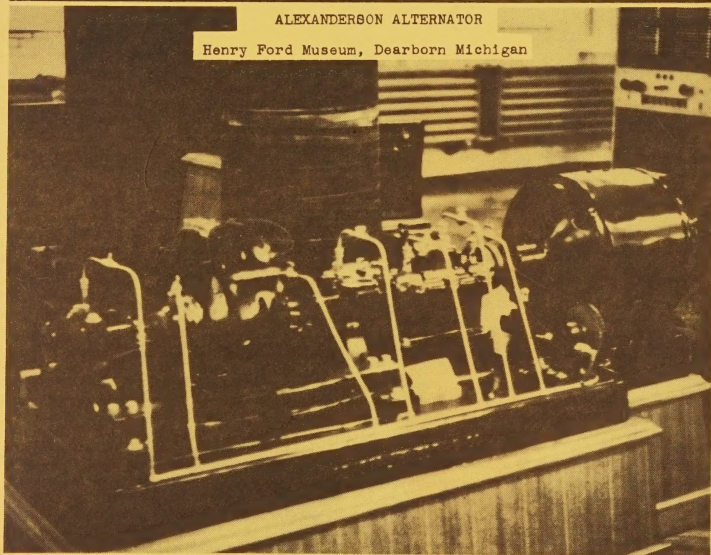
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ALEXANDERSON ALTERNATOR

Henry Ford Museum, Dearborn Michigan



The small american alternator series began with Reg. Fessenden's 1906 machine and continued for the next 11 years. Six progressive models have been identified but there may be more. They all bore a charming resemblance to the first; the size didn't change. Their high cost and low efficiency kept them out of the marketplace. However General Electric did build enough of them over the years to equip their Schenectady laboratories with them for utility r.f. power sources.

The one shown generated 2000 watts of c.w. 100 kHz power; a 3000 meter wavelength. Efficiency was about 17%. A 12 inch diameter rotor disk with 300 radial slots turned at 20,000 RPM (333 RPS) past armature windings (so called) which were stationary. 600 pole armature plates were commonly employed but near the end of the series 400 pole plates were developed to produce the same 100 kHz frequency. This museum machine appears to be one of the last built so it might be a 400 pole type.

ref: Alfred N. Goldsmith Radio Telephony The Wireless Press 1918.

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SCARS is a non-profit organization. Its purpose is to preserve the history of wireless communication by encouraging the acquisition, preservation and exhibition of antique wireless and radio apparatus and publications pertaining to its history and development.

SCARS promotes social contacts through meetings held four times a year at various locations in Southern California. Featured at these meetings are contests, swap sessions and talks by members and guests on subjects of interest to collectors.

The club publishes quarterly the

California Antique Radio Gazette which features articles of historical interest, news of club activities, hints on restoration, and advertisement of radio related items available for sale or trade. It is furnished free to all members. Ads are printed free for members. SCARS assumes no responsibility for the condition of items sold at swap meets or through *Gazette* ads.

Membership is open to anyone having a genuine interest in preserving the equipment and history of early wireless and radio equipment. Dues are \$10.00 per calendar year.

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Russell, Henry 14810-1/4 Sylvan St. Van Nuys, CA 91411	84	
Russell, Richard A. 6519 Edding Hill Drive Rancho Palos Verdes, CA 90274	84	
Ruyle, Claude 667 Myrna Drive Port Huene, CA 93041	84	(805) 488-1282
Rydel, Homer 3148 El Cajon Blvd. San Diego, CA 92104	84	(619) 280-5740
Sage, Edward 1781 Helane Court Benicia, CA 94510	84	(707) 746-5659
Scheid, Lyle Rt. 1, Box 14 Iroquois, SD 57353	84	
Schmid, Joseph 19200 - 6 Hamlin St. Reseda, CA 91335	84	(818) 881-0587
Schneider, Paul R. 1261 S. Ventura Road Oxnard, CA 93033	84	(805) 985-8346
Schubert, Lawrence D. 22935 Fonthill Ave. Torrance, CA 90505	84	(213) 325-0702
Schurman, Elmer W. (WA7LGA) 16424 N.E. 239th Ave. Brush Prairie, WA 98606	84	(206) 892-7230
Schwartz, Arnold 4728 Dunman Ave. Woodland Hills, CA 91364	84	(818) 888-0236
Shanks, David (WA2HFY) 115 Baldwin St. Bloomfield, NJ 07003	84	(201) 748-8820
Sharpe, Ed 2224 W. Desert Cove. Suite 205 Phoenix, AZ 85029	84	(602) 861-1388
Sheldon, Edward L. 656 Gravilla Place La Jolla, CA 92037	84	(619) 456-0506
Shuck, Robert J. 9150 Hague Road Indianapolis, IN 46256	84	(317) 849-0210
Sievers, Maury 612 E. Winter Drive Phoenix, AZ 85020	84	
Simpson, Jerry 31717 Ridge Route Road. #101 Castaic, CA 91310	84	(805) 257-3216
Simpson, Richard 6858 Ben Ave. #4 North Hollywood, CA 91605	84	(818) 982-6237
Smith, Alan 6368 Charing St. San Diego, CA 92117	84	(619) 268-3620
Smith, David 6060-1/2 Corona Ave. Huntington Park, CA 90255	84	(213) 560-3346
Smith, Douglas (W6ING) 5107 Bascule Ave. Woodland Hills, CA 91364	84	(818) 347-1456
Smith, Terry C. 6919 Cubot Ave. Van Nuys, CA 91406	84	(818) 989-3119
Smolski, Joseph C. 2641 E. Cannon Drive Phoenix, AZ 85028	84	
Soderlund, Charles 5985 W. Greentree Drive Somis, CA 93066	84	(805) 482-8734
Solow, Lawrence 16 Sleepy Hollow Road Saddle River, NJ 07458	84	(201) 327-2406
Spaulding, Harold 1567 Lilac Way Upland, CA 91786	84	(714) 981-1448
Stewart, Pat (W7GVC) 1404 Ruth Walla Walla, WA 99362	84	(509) 525-1699
Stout, David R. 439 21st St. Santa Monica, CA 90402	84	(213) 393-4104
Streeter, Glenn 13355 Ventura Blvd. Sherman Oaks, CA 91423	84	(818) 375-5522
Suarez, Robert 9461 Tanager Ave. Fountain Valley, CA 92708	84	(714) 962-3574
Suffield, Frederick G. 5875 Overlake Ave. San Diego, CA 92120	84	(619) 464-0677
Susman, Bart M. 15080 Victory Blvd. #101 Van Nuys, CA 91411	84	(818) 780-6750
Sweazy, Robert H. Box 278 Bird City, KS 67731	84	
Swinney, Mike P.O. Box 50603 Midwest City, OK 73140	84	(405) 736-1116
Tarfman, Henry M. P.O. Box 793 Lawndale, CA 90260	84	(213) 376-2278
Taylor, Bobbie J. (W6DVH) 680 Rosario Drive Thousand Oaks, CA 91362	84	(805) 495-4068
Taylor, F. Wayne (K6KVZ) 68 Weybridge Court Oakland, CA 94611	84	(415) 531-8378
Terrey, John V. 498 Cross St. Carlisle, MA 01741	84	(617) 369-9770
Thomas, B. G. 7720 Crescent Ave. #20 Buena Park, CA 90620	84	(714) 821-4505
Thomas, Denzel 718 N. Columbia Place Tulsa, OK 74110	85	(918) 834-8182
Thompson, Paul 735 N. San Marcos Road Santa Barbara, CA 93111	84	(805) 964-5791
Thrift, Frank 29402 Quailwood Drive Rancho Palos Verdes, CA 90274	84	
Tona, John K. 1010 W. Avenue H-3 Lancaster, CA 93534	84	
Troe, James L. (W2GRX) 111 Skyline Drive Morristown, NJ 07960	84	(201) 539-8943
Tucker, Roy & Kathryn (N6TK, AA6TK) 14109 Whiterock Drive La Mirada, CA 90638	84	(213) 943-1150
Turner, Bill 5925 Satsuma Ave. No. Hollywood, CA 91601	84	(818) 769-0682
Updegrave, Paul 348 31st St. Hermosa Beach, CA 90254	84	(213) 379-8733
Vaziri, M. R. D. 9442 Castlegate Drive Huntington Beach, CA 92646	84	(714) 962-3080
Wall, Andrew 9 Cabrillo Ave. Avalon, CA 90704	84	(213) 510-1584
Warburton, Joe 135 E. Adams St. Brownsville, TX 78520	84	(512) 542-7396
Watkins, Barbara J. P.O. Box 561 South Pasadena, CA 91030	84	
Wayne, Jesse P.O. Box A Sherman Oaks, CA 91413	84	(818) 462-2301
Weatherby, Jack 9822 Kale Ave. El Monte, CA 91733	84	(818) 444-1133
Weekley, Russ 13561 Sutter Drive Westminster, CA 92683	84	(714) 893-8618
Weiss, Robert 7940 Via Capri La Jolla, CA 92037	84	(619) 459-1553
Wells, Harry 8538 Senapis Pico Rivera, CA 90660	84	
West (Ret.), Lt.Col. James P. 3330 Albatross St. San Diego, CA 92103	84	(619) 298-5838
Whipple, Tom 802 N. Griffith Park Drive Burbank, CA 91506	84	(818) 845-6002
Whitaker, James L. 930 Sharon Way El Cajon, CA 92020	84	(619) 465-8951
Wiemers, Charles E. 1803 S. Redwood St. Escondido, CA 92025	84	(619) 745-6581
Williams, Herschel D. 33488 Rosemond Yucaipa, CA 92399	84	(714) 795-1835
Willis, Joe 525 W. Oakdale #1-24 Chicago, IL 60657	84	(312) 871-3928
Wilson, Tom 5257 Dahlia Los Angeles, CA 90041	84	(213) 255-7956
Wilson, Woody (WA6KW) 408 Oak Manor Drive Fairfax, CA 94930	84	(415) 454-8534
Wolf, Roberta 2634 Veteran Ave. Los Angeles, CA 90064	84	
Wood, Joseph (K9HBO) 6511 Chester Hodgkins, IL 60525	84	
Yo, David Box 832 Monterey Park, CA 91754	84	(312) 354-5848
York, Hart Box 365 Fontana, CA 92335	84	(818) 576-2642
York, Steve P.O. Box 3007 Satellite Beach, FL 32937-1007	84	
Zachar, J. O. (W6NVM) 4027 Globe Ave. Culver City, CA 90230	84	(213) 398-4863
Zander, Kenneth P.O. Box 2652 Sunnyvale, CA 94087	84	(408) 248-3555
Zellingner, Robert 6401 Larchwood Drive Huntington Beach, CA 92647	84	(714) 897-4678
Zelenack, Robert T. 9860 Oakridge Road Escondido, CA 92026	84	(619) 749-9652
Zimin, Carl 2460 A 35th St. Los Alamos, NM 87544	84	(505) 662-3504

TREASURER'S MESSAGE

Recently Walt and I went to an open house of the Model Railroad Club at Balboa Park in San Diego. The club is in the process of moving from one location to another and all the tracks and layouts are being completely rebuilt. There was enthusiasm in the air.

The growth of our club depends on the interest and enthusiasm of its members. On our regular meeting days, just stop and listen to the members talking to each other — sharing their adventures in finding radios, and how they restore them. If more of these people will come to the club meeting after the swap meet and share their finds with all of us, it will certainly add life and enthusiasm to our meetings. Perhaps a short "show and tell" session (informal, of course) could become a part of the meetings.

Tell your officers your ideas and volunteer your time to make our meetings more interesting.

Mary S. Curry
Treasurer, SCARS

ANNOUNCEMENTS

SCARS May meeting is planned for Pasadena Elsk Lodge at 400 W. Colorado Blvd. AWA is co-sponsoring this meet. There will be a nice sit-down lunch at \$5.00 per person. Plan on attending.

Special thanks to Roger Deane for initiating the idea, bringing the video tape and bringing the projection TV to our last luncheon so our group could see the Dick Cavat narrated Radio History Show.

Antique Radio Club of America has its annual Radiofest June 21, 22 and 23, 1984 at the Holiday Inn, 345 River Road, Elgin, IL. A tour of Dr. Ralph Muchow's museum is included. For information write Joe Willis; Box 14732; Chicago, IL 60614.

IN MEMORIAM

The membership will be saddened to hear that William Alvarez died in mid-December of a heart attack. The club will surely miss him as he was very active as the club's Contest Chairman, and a very personable individual. Our sympathies to his wife, Barbara, and their son.

PRESIDENT'S MESSAGE

1983 was a good year for club growth. Year end membership was at 300.

The club exists to serve all interests of antique radio collecting, historical record preservation, and to have fun collecting and preserving equipment and history. It is my intent to make the hobby more enjoyable. We will attempt to do this through the publication of quality *Gazettes* and the sponsoring of well-attended meetings. In addition to the above, some things that might come about in 1984 are: (1) realizing non-profit incorporation status for the club, (2) publishing a special (extra) publication during the year, (3) co-sponsoring our meetings with other clubs, (4) creating an annual award for the club member who has done the most to preserve and record historical radio information, (5) becoming a catalyst for sponsoring group gatherings of members to discuss and exchange data and information about historical radio things and events, (6) enlarging the *Gazette* and (7) developing ways of getting better responses from the membership on *Gazette* contents.

Your officers will be discussing these and other issues before the next quarterly meeting and will bring important matters to your attention through the *Gazette* or at the quarterly meetings.

Floyd A. Paul
President, SCARS



FEBRUARY 25 MEET
LOCKHEED EMPLOYEE
RECREATION CLUB
2814 Empire Avenue
Burbank, California

8 to 11 A.M. Swap Meet
11:30 A.M. Business Meeting
CONTEST JUDGING
10:30 to 11:00

Ralph Clark is planning a contest with four categories: (1) Battery sets; (2) AC sets; (3) Test equipment and (4) Vacuum tubes. You are encouraged to bring your sets, equipment and tubes to the February Meet in Burbank.

EARLY DAYS AT KMTR

*Larry Rauch
W8FDG/ex W6JVT*

My first contact with KMTR came some few years before the period 1935-39, during which I was an engineer there. About the time my parents moved from the center of Los Angeles to the Hollywood area in 1924 I started my electronics career by picking up and experimenting with dead and not-quite-dead batteries discarded by neighbors with "tube" radios (as distinguished from "crystal" radios). Several years later the Hollywood Storage Company constructed a rather tall building on Highland Avenue, south of Santa Monica Boulevard, within sight of my parent's house. The attraction was irresistible when it became evident that the design of the building included two large radio broadcasting towers on the roof, with a special structure for the transmitter under the west tower. (The bases for the towers are still quite evident on the building today.)

It wasn't too long after KMTR began operation that I managed to find my way to the top of the building and, happily, the transmitter engineer was sympathetic to the burning interest in a pre-teenage radio enthusiast. The three things that impressed me the most were the large tubes in the transmitter (Western Electric 212D modulators), the rotating machinery for all DC power and the marine radio receiver tuned to the distress frequency. This latter was so the broadcast station could be taken off the air without delay if there was interference with distress communication. (KMTR operated on 570 kHz.) At that time the studios were located on a lower floor of the same building.

Several years later, in the early 1930's, two 250 foot towers were constructed at 1000 N. Cahuenga Boulevard and the KMTR transmitter moved about a half-mile east of its original location. At the same time new studios were constructed on the grounds of the then United Artists Studio, with entrance from Formosa Avenue, about a mile west of the new transmitter. In addition to offices, the new building contained three broadcasting studios grouped around an audience room from which the studios could be viewed through large sound-proof windows. One of the studios, large

enough to hold a full orchestra, had a theater pipe organ which, in addition to my more electronic activities, I sometimes tuned. A second studio was intermediate in size and there was a small studio for announcers which included equipment for 78 RPM 10 and 12 inch records, and 33-1/3 RPM 16" transcripts, the latter having a maximum playing time of 15 minutes. The control room where I sometimes worked had a view of all three studios through the usual sound-proof windows and contained the mixers and amplifiers. All control room equipment was Western Electric with the popular tube types being the 262A and 271A (WE numbers). All heaters ran on DC from two sets of batteries which were alternately used on a charge/discharge cycle. There was one Western Electric high voltage supply for all amplifiers. The double-button carbon microphone had previously gone out of use and this was the age of the new dynamic and ribbon microphones. Every microphone required its own preamplifier in the control room before the mixer. The monitor speakers throughout the studio building ordinarily ran from a monitor circuit deriving its signal by rectifying a small part of the transmitter RF output, a mile to the east. This was so the studio people would know immediately if there were any trouble with the transmitter. It did not take the transmitter engineers very long to come up with jokes such as playing records back on the monitor circuit which were not the same as the record being played at the studios and going on the air.

In those days an independent station like KMTR had large amounts of live programming. Keep in mind there were no tape recorders and acetate disks for recording and playback without processing cam in only during the latter part of the era. Live programming included a house orchestra under the direction of Salvatore Santeaya, the organ played by C. Sharp Minor and others, Stuart Hamblin and his group, Fanny Reinhart and her Yiddish theater group and many others. The commercial advertisers were quite varied including, prominently, Dalton's Auto Loans. Mr. Victor E. Dalton was one of the local early auto

loan entrepreneurs who also happened to be the owner of KMTR.

The call letters came from the first owner of the station, Mr. K. M. Turner (K. M. Turner Radio)

The transmitter was in a small building directly under the "T" antenna between the two 250 foot self-supporting towers, each mounted on four insulators with the station's call letters in neon signs about half way up the towers. The transmitter building contained a generator/battery room, transmitter room and small announcer's studio for emergencies and special matters.

There were several racks of Western Electric audio equipment similar to that at the studio, but the transmitter itself was a thing to behold. Built by RCA, it was about eight feet high, six feet wide and three feet deep. There were duplicate exciter units, each consisting of a 210 crystal oscillator and two 865 buffer stages. Each crystal was in a temperature controlled oven with heater relay operated by a 210 tube. The exciter unit in use drove an 860 amplifier which was followed by a modulator stage consisting of two 860's in parallel. The Heising constant current modulator was an 849. The modulated stage was followed by a 207 class B linear amplifier operating at 6,000 volts, 1/2 amp, to provide an unmodulated carrier power output of 1 kilowatt. This was matched to the antenna through a separate tuning unit about half the size of the transmitter. The 207 was a triode with pure tungsten filament and an external water-cooled anode of 10 kilowatts maximum dissipation. Keeping the "distilled" cooling water sufficiently pure was a chronic problem and the mineral buildup had to be cleaned off of the 207 anode from time to time, even with only 2 kilowatts dissipation. Cleaning time arrived when one could hear a sizzling noise in the water jacket from the micro boiling around the mineral deposits. The nature of class B amplification of an AM signal was clearly illustrated when the boiling would stop during sustained modulation such as a musical passage.

The transmitter power supply, including the 6000 volts dc, came entirely from motor generators. The small motor generator set had a 22-volt generator an many amps for filaments and a 500-volt generator for negative biases throughout the

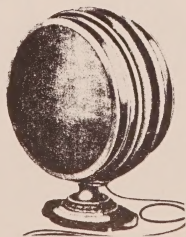
transmitter. The large motor generator had two generators, each with two commutators, each of the four commutators delivered 1,500 volts and all were in series to provide 6,000 volts. That voltage between the "high" commutator and the armature and shaft of the generator stressed the insulation a bit and occasionally the insulation failed with spectacular results that could only be fixed at the factory. A spare armature was a considerable investment and so there was an arrangement with another station elsewhere in the Los Angeles area with the same model of generator where-by one spare armature was shared between the two stations. If the failure happened to occur at the station not keeping the spare, then the other station sent over the spare armature via taxi and the station could be back on the air in a couple of hours.

In those days KMTR had a number of live "remotes" switched through the audio system at the transmitter. These included the La Golondrina Cafe on Olvera Street, the Seven Seas Cafe on Hollywood Boulevard, Lucas Resturant, track meets at the Los Angeles Coliseum and others.

About 1938 KMTR lost the use of the studio building on the United Artists lot and for a while many programs used a tent erected at the transmitter site, and later replaced by an entire studio and office complex built at that location, but that might be the subject of another story and some pictures.

I would like to dedicate the above recollections to a fine friend and gentleman, Mr. Carroll Hauser, W6NP, who was chief engineer at KMTR during the time I worked there and who recently passed away.

END



LOS ANGELES RADIO MANUFACTURERS

THE GILFILLAN STORY

Second Installment

The Gilfillan Brothers success as manufacturers of ignitions and their early entry into the field of plastics did not dull their pioneering spirit.

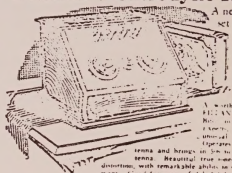
The first World War brought new challenges to American industry, and among those companies ready to answer the challenge was Gilfillan. At the outbreak of the war the field of aviation was still something of a novelty. By 1916 however, airplanes had been successfully adapted for military use and the year 1917 found Gilfillan busy manufacturing turnbuckles and other precision-tooled parts for the early flying Jenny trainers. (Subsequent advertisements noted: "During the World War Gilfillan parts were subjected to severe tests by the Government and were always found to meet the most stringent requirements.") The origins of the later Gilfillan Aircraft division can be traced back to this period.

Radio was the next in the long line of Gilfillan achievements. The year 1922 marked the beginning of Gilfillan production of radio receivers. This placed Gilfillan as one of the five original radio set manufacturers in the United States. The lasting quality of these early receivers has assured Gilfillan a respected place in the eventful history of American electronics.

The Gilfillan attitude concerning product quality is clearly revealed in the forward of Catalogue #8, published in 1923: "Gilfillan Brothers Inc. is founded on the principle that the best materials, scientifically manufactured, produce permanent 'good will' in business building."

Other important Gilfillan products that

Gilfillan Neutrodyne Radio Sets



A new 4 tube Dry Cell set at a popular price.

\$65

Without Accessories

A worth addition to the GILFILLAN NEUTRODYNE line. Re. in our literature. In time, when you say this is a most universal value for the money. Operates on local weather conditions and brings in low to low miles an indoor antenna. Beautiful true economy home in as rapidly as distortion, with remarkable ability to carry extremely what you want. Good for years of delightful enjoyment.

We also offer a Complete Line of Radio Kits and Parts to Make Any Set

Ask your Dealer TODAY!

GILFILLAN BROS. INC.

KANSAS CITY

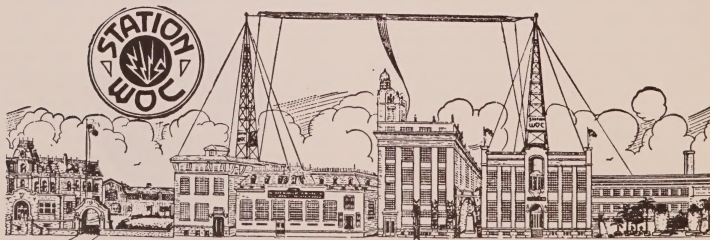
1815 W. 10th St., LOS ANGELES

NEW YORK CITY

belong to the roaring twenties include auto spotlights, small drills, grinders and tools, and a complete line of fractional horsepower motors. The spotlights, for example, featured a special Bakelite handle and were sold with "tailor made brackets to fit the windshield frame of any car."

Thus with a wide line of reliable commercial products Gilfillan entered the depression years. Refrigerators, radios and television highlight these years and it is to this decade that we shall return in the next issue of the Scanner.

Submitted by Ed Reitan from the ITT Gilfillan Scanner publication of February 1965.



RADIO HORN SPEAKERS

By Floyd A. Paul

About four years ago the author started a series of steps leading toward determining which radio horn speakers have survived 55 years of life and how many of each model were made. In visiting at least one collector each month, and in writing to about one new collector each week, much data and information was obtained on radio horn speakers in a three year period. As of July 1983, 81 collectors have returned questionnaires or written to me about their horn speakers.

Much additional correspondence went out in determining certain idiosyncrasies, model changes or unique conditions about horn speakers. Of the 81 collections, some contained two or three horns while the larger collections contained 50, 53, 78 and one had 110 horns, all different. The average number of horns per collector was about fifteen. Some collectors had many duplicate horn speakers in their collections but most had all different horns.

After sifting through the returned listings and additional correspondence information, 1235 horns in 81 collector's hands were analyzed and categorized. The summarized listing is shown in alphabetical form.

Mfgs with most horns

AK (176) Magnavox (159) RCA (116) W. E. (65) Dictograph (51) Amplion (42) Music Master (41) Winkler R. (32) Amer. Elect. (29) Rola (29) Bristol (28) AK (176) Magnavox (159) RCA (116) W. E. (65) Dictograph (51) Amplion (42) Music Master (41) Winkler R. (32) Amer. Elect. (29) Rola (29) Bristol (28)

Mfgs with four horns or less:

Aerofonic	Hamburg	Rice & Hoch.
Amer. A.M.	Harold	Royal
Amer. H.R.	Hartford	S.C. Products
Apex	Hartman	Schloth
Arnold	Howley	Seaman
Astral	Holtzer	Spartan
Audiophone	Interocean	Specialty
Auto. Enun.	Jodra	Splitdorf
Belt	Jolley	Standard H.P.
Bennett	K & C	Star-o-tone
Best	Kennedy	Starr
Best Pal	Kent	Sylan
Boudette	Kirkman	Tele. M.
Callophone	Knott	Timbertone
Chanson	Leader	Tonks
CIC	Marco	Triangle
Clappe	Marfield	Trinity
Clarodyne	Milo	Trutone
Cory	Molded W.	Victor
Davis	Montgomery	Vocaloud
DeForest	Newcomb	Voluma
Falck	Operadio	Walton
Federal	Ovenshire	Whitney
Florentine	Pacific C.	Workrite
Flowervox	Perfectone	Yahr L.
Freed E.	Piroxloid	Zenith
Full-A-Tone	Qualitone	
Gemco	Radio Cab.	
Graefone	Radio Shop	
Graonlite	Radioceive	
Gottschack	Recola	
H & H	Remo	
Halliwell	Resonophone	

Mfgs with 5 to 25 horns

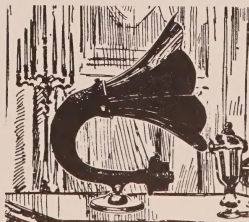
Baldwin	Manhattan	Thompson
Brandes	Mozart	Tower
Bristol	Mult. E.P.	Trim
Frost	Murdock	Timmons
GGH	Riley-Klotz	Utah
Gale	Saal	Westinghouse
Herald	Sonora	West. Elect.
Jewett	Stew. Warn.	Wilson U.
King	Stromb. C.	WLS - Sears
Kellogg	Temple	
Kodel	Teletone	



The Amplion Junior Deluxe. AR-116, \$27.50



The Amplion Junior Model AR-111, \$24.00



Restoration Tips



— Edited by Joe Smolski

REPLACING CAPACITORS

Q *What is an acceptable level of leakage current for old electrolytic capacitors?*

A In Volume II of the *Perpetual Troubleshooter's Manual* (1932) John F. Rider wrote, "The normal rating of electrolytic condensers is somewhere around .1 to .25 milliamperes per microfarad." Check leakage at normal operating voltage.

Q *Why is it considered bad practice to parallel an old capacitor with a replacement?*

A It's OK to check a suspected open with a temporary parallel connection, but it's not a good idea for a permanent repair. The reason is that the old unit can develop excessive leakage or even short, resulting in subsequent circuit failure.

Q *I've heard that it's not a good idea to replace old electrolytics with ones having higher capacitance. Is that so and if so, why?*

A It depends on where the capacitor is in the circuit and how much higher in capacitance the replacement is. Generally speaking, replacements within 20 percent or so of the original value will be OK in any circuit. In some applications, such as a cathode resistor bypass in an output stage, it doesn't matter how much capacitance is used, as long as it is not less than the original value. When replacing the input filter capacitor in a power supply, however, one shouldn't exceed the original value by a great deal. There are two primary results of so doing. First, the peak current drawn through the power transformer secondary (AC sets) and through the rectifier tube(s) is increased. Second, the B+ voltage to the rest of the circuit can be raised significantly. The former effect

may be of little consequence in most cases, but elevated B+ voltage causes the rest of the circuit to draw more current from the supply than normal. This puts an added strain on the power transformer, speaker field coil, if present, and other components in the form of excess heat dissipation. One way of avoiding the problem is to avoid adding too much capacitance at the input of the B+ ripple filter. Another satisfactory approach is to add sufficient resistance in series with the B supply to drop the voltage across the rest of the circuit back to its normal value.

RUSTY CHASSIS

Q I've got a couple of sets with acceptable cabinets but very rusty chassis. What is the best way of dealing with the rust?

(I don't have a good answer to this one. Can another reader help? — Editor)

REPAIRING VIBRATORS

Although not originally intended to be serviced, old auto radio vibrators that have quit working can often be repaired. The first step is to carefully disassemble the unit and clean the contacts. Before reassembling, try it out in the circuit to see if it works. Pay particular attention to the sound it makes. If it vibrates too fast (the buzz it makes is too high in pitch) the contacts may be too close together, so try bending them apart slightly. If the unit vibrates too slowly (buzz is too low in pitch) or if it is erratic or if the unit needs to be jarred to start it when the power is first applied, the contacts may be too far apart. Try bending them slightly closer together. Through trial and error you will usually be able to get it just right.

Frequently this technique can breathe new life into an ailing vibrator, but if you have one that is truly beyond hope, don't throw it away until you have taken a second look at the rubber noise damper inside the can. Some of them make dandy tube pullers!

RADIO CROSSWORD PUZZLE

Roy & Kathryn Tucker

N6TK & AA6TK

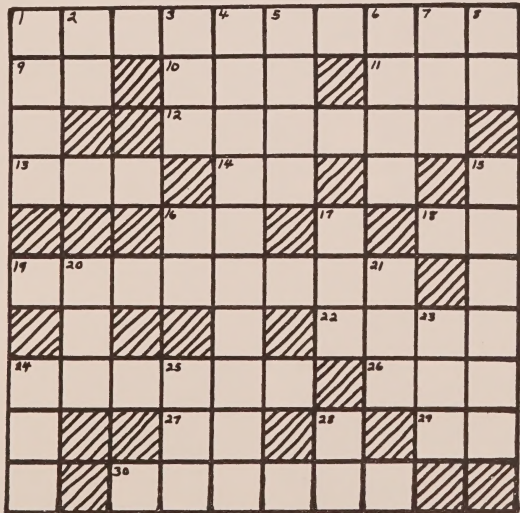
Some of the clues are rather indirect but all refer to antique or modern radio.

ACROSS

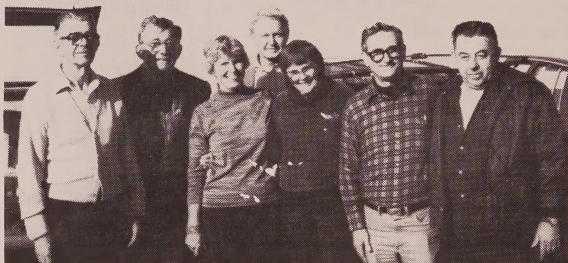
1. First device in a broadcaster's chain of equipment
9. Voltage drop
10. Please (Morse)
11. Radar display
12. Type tube part
13. Type of guy insulator
14. dit-dit, dah-dit-dah
16. Repeater control device
18. Zero is 1 milliwatt at 600 ohms impedance
19. Not series
22. Popular antenna with amateurs since 1930's
24. Case in 1926 which overturned control of radio by U.S. government
26. Without it no electronic TV
27. Last syllable of many radio companies
29. Inspector's disapproval
30. Early type of 1. down

DOWN

1. Short version of 1. across
2. Equals volts
3. Radio Product Sales Company
4. No modern radio can operate without one
5. "After alignment, the receiver would sure ----"
6. Problem with many audio transformers
7. P-type base
8. Equals watts
15. Lodge called it "syntony"
16. Race tracks from 1920's onward could not function without one
17. Samuel F. B. Morse had an early one
20. Electronic endurance test
21. Current leads in a capacitor and voltage will ---
23. Same as 26. across
24. 10 amps on the collector
25. Made radio hardware in the 1930's
28. Radio operator



continued on pg. 10



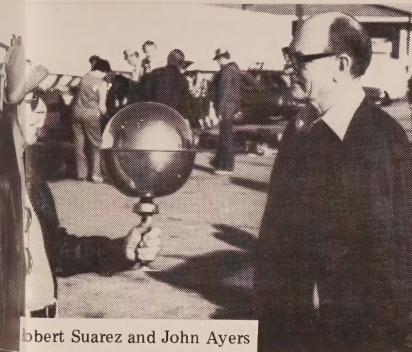
Left to right: (Arizona members) George Fathauer, Bill and Dorothy Pugh, Bob Grinder, Maury and Rosebud Sievers, and Forest Pierce.



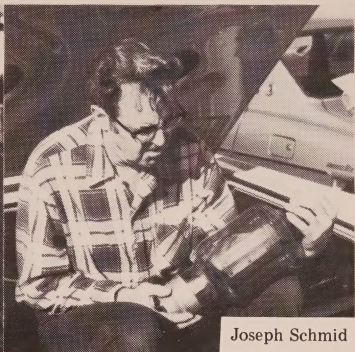
Justin Link



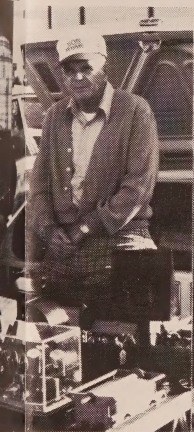
Torrance Luncheon at The Velvet



Robert Suarez and John Ayers



Joseph Schmid



at The Velvet Turtle



Bill Gabb



Ralph Clark



HIGHLIGHTS
of the November 19, 1983
SCARS MEETING
at the Velvet Turtle Restaurant
Torrance, California
By Ed Sheldon, Secretary

The meeting was called to order at 1:00P.M. by SCARS vice-president, Floyd Paul, acting in the absence of president Charles Farnsworth.. The minutes of the previous meeting were read and approved.

Treasurer Walt Curry reported a balance of \$2460 and announced that so far 131 members have paid their 1984 dues. This is compared to 40 members who had paid their dues at this time last year.

Ralph Clark was thanked for his role in making arrangements for this meeting and luncheon. Bill Alvarez announced the results of the Contest, which is reported in detail elsewhere in this *Gazette*. Bill appealed for better participation by members in the contest and suggested that they be held every other meeting. In the discussion that followed, most members were of the opinion that the contests should be held at each meeting. Some felt that members should be encouraged to bring interesting sets and equipment for display, Whether or not they are entering a contest.

Roy Tucker gave a report on the SCARS badges, in which he stated that the badges made to date were not acceptable due to spelling errors. He is having the vendor do them over.

There was a discussion of future meetings and it was suggested that we come back here a year from now — at the Velvet Turtle, Torrance, California.

The February meeting will be held on the 4th Saturday in Burbank at the Lockheed ERC.

The May meeting will be held on the 3rd Saturday at the Pasadena Elks Lodge. It was recommended by Floyd Paul that we have the May meeting co-sponsored by the A.W.A.. This was put in the form of a motion, and passed overwhelmingly by the members present.

Floyd Paul reported on the status of our incorporation as a non-profit group. He stated that our club had voted to incorporate and was in the process of getting a "Determination Letter" by which the IRS formally recognizes that

our club is non-profit. This letter should be coming soon. The next step will be to go to the State of California for a similar determination.

A proposed slate of officers for 1984 was read to the members. A motion was made, seconded and passed unanimously to elect the following officers:

Floyd Paul President
 Walter Curry Vice-President
 Mary Curry Treasurer
 Ed Sheldon Secretary

The meeting was adjourned at 1:45 and was followed by a program on the history of radio in America.

CONTEST ACTIVITIES

Our November meeting was the high-water mark of 1983. The feeling of satisfaction with how well our club is going pervaded every aspect of the meet. Roger Deane's videotape, *Remember When*, was well received and much appreciated, and having been well fed, we relaxed and enjoyed it.

One thing was amiss, however, and we all realized it. Everyone had relied on someone else to bring display radio equipment and contest entries. After discussing the situation it was generally agreed that contest room security — or rather, lack of it — was the chief reason for the oversight.

Immediately the answer came from the feminine contingent: *they* volunteered to provide the needed security for the next November meeting. Their response was prompt, cheerful and brimming with pride. Ladies, we love you!

Ralph Clark

solution to puzzle, pg. 7

1	M	2	I	3	C	4	R	5	O	6	P	7	H	8	O	9	N	10	E
11	I	12	R	13		14	P	15	S	16	E	17		18	P	19	P	20	I
21	K	22		23		24	S	25	C	26	R	27	E	28	E	29	N	30	
31	E	32	G	33	G	34		35	I	36	K	37		38	N	39		40	T
41		42		43		44	P	45	L	46		47	K	48		49	V	50	U
51	P	52	A	53	R	54	A	55	L	56	L	57	E	58	L	59		60	N
61		62	G	63		64		65	A	66		67	Y	68	A	69	G	70	I
71	Z	72	E	73	N	74	I	75	T	76	H	77		78	G	79	U	80	N
81	A	82		83		84	C	85	O	86		87	R	88		89	N	90	G
91	P	92		93		94	C	95	A	96	R	97	B	98	O	99	N	100	

TECHNIQUES FOR IMPROVING THE PERFORMANCE OF SIMPLE FIVE TUBE SUPERHETS

By Ed Sheldon

Frequently the simple five-tube superhet of the type using a "cut plate capacitor" for tuning the oscillator circuit, will have poor sensitivity at around 600 KC on the broadcast band. The cut-plate capacitor is a term used for an oscillator tuning condenser having specially shaped plates of reduced size compared to the antenna or R.F. tuning condensers. Cut plate oscillator capacitors were used on most of the small 5-tube single-band sets with two-gang tuning condensers made after the mid-1930's. They were also used on some of the 6-tube single band sets having a three gang tuning capacitor. In this case there will be a tuned R.F. stage.

These sets usually have shunt trimmers on the tuning capacitors for antenna (and R.F.) circuit alignment. The alignment frequency usually specified is 1400 K.C. However, no mechanism is provided such as a low frequency padder to align the oscillator with the antenna (and R.F.) circuits at the low frequency (600 K.C.) end of the dial. The special shape of the cut plate oscillator capacitor is designed to take care of the tracking or alignment of these circuits. However, aging of components, changes in wiring due to poor service techniques, variations in inductance and distributed capacities caused by the original production tolerances all contribute to misalignment, and therefore poor sensitivity.

The first steps should always be of eliminate all other sources of poor sensitivity such as bad tubes, poor converter tube gain due to low oscillator voltage, and low I.F. stage gain. Low I.F. stage gain will cause poor sensitivity all over the dial. Below normal oscillator voltage at the low frequency end of the dial will cause poor converter performance. In extreme cases the oscillator will cease to function at some point on the dial and the set will be dead.

The *average* oscillator grid voltage of -10 volts for AC/DC sets and -15 volts for AC sets is adequate. A 2:1 variation in this voltage over the dial is normal. These voltages must be measured with a VTVM.

For the following discussion it is assumed that the converter/oscillator

stage has been checked and found to be normal. In that case, poor sensitivity of the set is probably due to poor tracking. There are two ways by which you can correct this:

Method No. 1

Shift the IF frequency higher or lower so that the antenna (and R.F.) and oscillator circuits may be brought into alignment.

Procedure:

Set the IF's to the proper frequency, usually 455 K.C. Align the antenna and R.F. and oscillator trimmers at 1400 K.C. or as specified in the service data. Tune the set to 600 K.C., inject a 600 K.C. signal, and retune the IF's, aligning and tuning them using an output meter, until you get the highest reading and sensitivity. Reset the dial at 600 K.C. if required for proper calibration. Realign the antenna, R.F., and oscillator trimmers at 1400 K.C. for best dial calibration and sensitivity. Recheck the dial at 600 K.C. for proper calibration and sensitivity.

Method No. 2

Replace the oscillator coil with an adjustable slug-tuned type made by Meissner, Miller and others. This is the preferred method because it always works and results in good dial calibration. It will improve the oscillator performance and any tendency to drop out at 600 K.C. With the tuning slug you can easily adjust the oscillator coil to the inductance value for perfect alignment.

Procedure:

Install the new oscillator coil and adjust the oscillator tuning slug for maximum output at 600 K.C. Trim the antenna (and R.F.) and oscillator capacitors at 1400 K.C. Recheck at 600 K.C., adjusting the tuning slug as required, and at 1400 K.C. using the trimming capacitors. Repeat until no changes in adjustment are needed.

NOTE: Adjustable oscillator coils are available from Antique Radio Supply Dealers and new Miller oscillator coils from Radio Supply houses. Numbers are Meissner 14-1028, and Miller 70-OSC.

THE ORIGIN OF THE TERM "RADIO"

Roy and Kathryn Tucker
N6TK & AA6TK

Presumably everyone knows that at one time the term 'wireless' was popular to describe communications without interconnecting wires, and then 'radio' replaced the term. Not so commonly known is that many other terms had at least a degree of popularity in this realm before being discarded, and a few have persisted to the present. Almost forty words in English are known to the authors as having been utilized, plus numerous in other languages.

Even before the pioneer work of Hertz and Marconi just prior to the turn of the 20th century, wireless (sometimes spelled wire-less) was being spoken to describe the very short range conductive and inductive systems of communication that had appeared as early as the 1830's. Loomis in 1872 when applying for his patent on a method of electrical communication from two kite-bourn antennas referred to aerial telegraphy. Edison spoke of etheric force, referring to the once held belief that all electromagnetic radiation passed through an invisible medium known as ether. As soon as Hertz' work became known it was common to refer to the signal generated through spark gap transmitters as Hertzian waves, a term that has been used to cover true radio waves ever since. For a short while people spoke of Marconi waves. The list grew lengthy and sometimes confusingly as to exactly what was being covered.

The various terms that began to be coined around the idea of wireless communication almost always started as adjectives to modify the term telegraphy or telephony; thus electromagnetic telegraphy and space telephony. Equally the terms were applied to the word communication to cover the overall concept of such a system; accordingly coinages such as wireless communication or air communication. The wave media used in disseminating the intelligence was also accompanied by the newly coined adjectives as in either waves, radio waves, and airwaves. In some languages, especially English, the new term took on a noun meaning. Instead of speaking of radio apparatus or a radio receiver, people began to speak of merely a radio. Even

verb meaning materialized, such as "radio this message to headquarters."

Objections to the originally chosen words came early. Many did not like the fact that each major language had different terms, often literal translations from one to another such as *drahtlose* in German, and *san fil* in French, or *senza fili* in Italian (for wireless and without wires, accordingly). To many, having to add the noun telegraphy or telephony made the terms excessively long. Also, because Hertzian radiation was the third (but by far most significant) of the methods of communicating without wires, it was felt a new term that would exclude conductive and inductive methods was desirable. Sometimes even light beam communication had been called a method of wireless.

At the Berlin International Wireless Telegraphy Conference in 1906 the topic came up and the term radio was suggested, based on the word radiation and to be spelled the same in all languages. It was to cover only Hertzian waves. The 1912 meeting in London of this same international body (today incorporated within the International Telecommunications Union of the United Nations) came as close to making the term 'radio' official as could be done. The year 1912 seems to be the big breakthrough year in many regards for the term radio; the Radio Act of 1912 provided for the first comprehensive regulation of the new media in the United States, and the Institute of Radio Engineers was formed in the same year as a merger of two previous organizations that both had wireless in their title. The United States Navy that year directed the the word radio replace wireless.

The term wireless only slowly died out after 1912 and still had some use at least through the early 1920's in the United States, and has continued in popularity to the present in Great Britain. Once the broadcast boom got underway in the United States, the public more and more began to consider the term wireless to be telegraphy while radio covered telephony. The other terms only had a brief vogue or had specific application for things far less than the overall communications concept. To a scientist, though, the radiation is still by electromagnetic waves and to entertainment and news personnel they

have always broadcast (one-way transmission to be entirely correct) over airwaves. When television came along it went the same route as earlier wireless and radio; first the term was used as an adjective but finally it settled down as a noun. Today we speak of "turning off the television," not having to add the words receiver or set.

More or less interchangeable words as follows have been used in radio's approximate century of existence (including pre-Hertzian wave wireless). Typically they were descriptives to modify words such as telegraphy, telephony, communication, waves, or various apparatus.

1. aerial
2. aerography
3. air
4. atomospheric
5. broadcast
6. electric
7. electrical
8. electricity
9. electro
10. electromagnetic
11. electronic
12. electrostatic
13. ether
14. etheric
15. Hertz
16. Hertzian
17. high frequency
18. induced
19. induction
20. inductive
21. magnetic
22. magneto
23. Marconi
24. Marconism
25. Maxwellian
26. oscillating
27. oscillation
28. radiant
29. radiating
30. radiation
31. radio
32. radio frequency
33. space
34. spark
35. stratospheric
36. wireless or without wires

Notice that three personalities (Maxwell, Hertz and Marconi) are embraced by the terms. In all probability the Russians have coined the term Popovian to honor their claimed "inventor of radio," Alexander Popov.

The best way to study the evolution of the language is not to consult recently published histories of radio; they will usually have modern-day language. Read publications contemporary with the times and see how the terms evolved from the 1890's to the present.

Regardless of what the term is or was, and how this came about, the subject established by it to many of us is the most exciting thing ever developed and a most appealing one for collecting and study.



BOOK REVIEW

By Editor F.P.

The Early Days of Wheeler and Hazeltine Corporation — Profiles in Radio and Electronics by Harold Alden Wheeler.

The author recalls the early days of his involvement with Dr. Hazeltine and the Hazeltine Corp. In addition to personal adventures from birth to the present, he recounts his inventions, his personal relationship with Dr. Hazeltine and many Hazeltine Corp. events. The 432 page book treats everything in chronological fashion and names dates along with events. Among other popular designs and inventions, the book discusses the Neutrodyne receiver, 1922-29, uniform gain 1924, automatic volume control (AVC), 1925, the tuning meter, 1926, the diode AVC patents and litigation, 1932-41, the converter in a superheterodyne, 1930-33, and other inventions.

The book is printed by Hamilton Reproductions, Inc., Poughkeepsie, NY 12601. Copyright 1982 by Hazeltine Corp., Greenlawn, NY 11740.

DXing WITH OLD RECEIVERS

By Walter Curry

Through the twenties and thirties people sat up nights DXing with radios instead of watching TV. The DXer would record a log of all dial readings and spend hours of random knob twiddling to find peak performance.

Here is an efficient process for determining the DX capabilities of your old radios, as it allows the listener to quickly converge on the optimum dial settings for a desired frequency. It requires an RF generator and counter to monitor output frequency.

First target some stations that will test DX performance. Here in San Diego, KOA (Denver), WCCO (Minneapolis), and KBOI (Boise) are good tests, depending on the set involved. A one-tube regenerative set does well to pick up Denver or Boise, while more powerful sets will pick up Minneapolis, New Orleans and even New York late at night.

Next, make sure the radio is in good working order so a meaningful test of DX capabilities can be made of it. This means good tubes, adequate condensers and precise alignment. Even old battery powered TRF Atwater Kents can benefit by synchronizing the band-coupled tuning condensers at 1300KC. Proper alignment is critical for a good superhet performance, and great care should be used to peak the IF stages exactly at the manufacturer's recommended IF frequency. This will ensure that the front end is tracking properly. Most RF generator dials are one to two percent off so I use a counter to set frequency.

Now hook up the antenna to your set and loosely couple the RF generator to the antenna lead-in. Set the generator frequency, with modulated 400 cycle output, to that of the desired station and turn up output high enough so the set can pick it up. Fine tune all set adjustments, advance regeneration, etc., while reducing generator output. When optimized, turn off the generator and listen for the station. Usually if the set can pick it up you will hear it at this point. Slight further dial adjustments sometimes help.

One final point. Some sets need a variable antenna coupler for optimum performance. Coupling should be the minimum needed to obtain useable signal

strength, for maximum selectivity and to prevent overloading the front end. A simple tuning condenser in series with the antenna will work here. Even better results could be obtained with a loose-coupler or a large tuned loop inductively coupled to the set. However, these latter items will begin to distort the set capabilities.

There you have it. Good hunting!

A VISIT TO TWO MUSEUMS

By F. A. Paul

On September 21, 1983, Dorothy and I visited Ralph Muchow's Museum in Elgin, Illinois. Superlatives do not describe Ralph's collection. It is without a doubt a must place to visit if you are a serious collector. AK Breadboards, carved wood cabinets and wireless equipment abound, and it was neatly arranged and organized. Ralph was a gracious host. We spent two and a half hours and did not see everything.

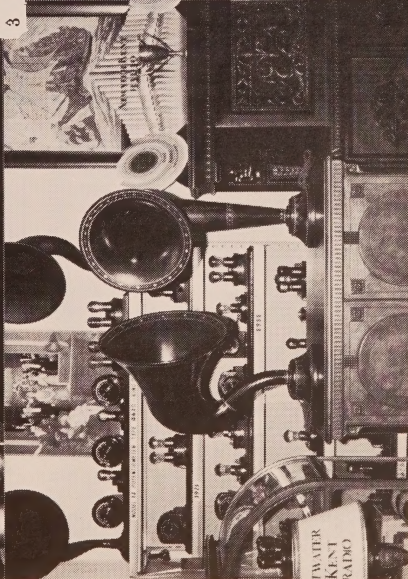
Of particular interest were the horn speakers (I wonder why!). Ralph stated he had over 180 different horn speakers and of particular interest were two solid wood horns. Ralph said they were made for and ordered by David Sarnoff in the mid-twenties. He commissioned European designers to make two exquisite horn speakers which were to have been a prototype for a line of speakers that RCA might make. These horns had stone and pearl inlay work and have flawless craftsmanship. They had been stored in RCA vaults for many years until Ralph acquired them. See picture 3. Dorothy and Ralph are shown beside a Timmons oval cone speaker — see picture 1.

On September 25, Dorothy and I visited Fred Hammond's Museum in Guelph, Ontario, Canada. Fred's museum is contained in one large room. It has wall to wall carpeting and very comfortable surroundings. He has a tube display that is dazzling. Several KW's are needed to light all the tubes. He has a number of vintage communication sets that are in very clean condition and bring back memories of the 1930's and '40's. There are antique battery sets, microphones, wireless equipment and horn speakers on display.

A VISIT TO TWO MUSEUMS



1 2 3 4





For Sale or Trade & Want Ads



ADS MUST BE SUBMITTED EACH
TIME FOR EACH PUBLICATION. ADS
ARE SUBJECT TO EDITING AND
SPACE LIMITATIONS. ADS ARE FOR
MEMBERS ONLY.

FOR SALE — Grebe CR-9, \$300. Fed. 61, \$675. Kenn. 220 and amp., \$600. Radiola RC, \$100. DeForest Interpanel, \$625. BC-14, crystal set, 1910 vintage, \$400. Radiola 26, \$200. AK-32, \$60. AK-40, \$35. Also misc, catalogs and magazines. Send SASE for list. Paul Giganti. 2429 San Carlos Ave. San Carlos, CA 94070.

FOR SALE — Crystal set parts, phone tips, dial cord, rubber feet, etc. Close-out special on Galena crystal holders, 40% off. SASE for more info. R. A. Goodman. 7943 Ponce Ave. Canoga Park, CA 91304.

WANTED — REL-278. Also desire any information available on this receiver. John Crowe. W6ULZ. 22060 Independencia St. Woodland Hills, CA 91364.

WANTED — Sparton Model 301 or similar parts, speaker, cabinet or what have you. Bruce McCalley. 2039 Evergreen St. Burbank, CA 91505. (213) 842-2010.

FOR SALE — A-B-C power unit for Crosley AC-7 pictured on back cover of *Popular Radio*, 1927. Ed Sheldon. 656 Gravilla Place. La Jolla, CA 92037.

WANTED — Copies of *The Proceedings of the Institute of Radio Engineers* from the 1920's and 1930's. Browning Drake receiver and/or the Browning Drake coil and condenser set consisting of the antenna tuning unit and the detector input tuning unit. These parts were also sold by National. Ed Sheldon. 656 Gravilla Place. La Jolla, CA 92037.

WANTED — Western Electric amplifiers, tubes, speakers, etc. Jensen field coil speakers, drivers. Early JBL and Lansing and W.E. theater equipment. Walt. Rt. 1, Box 477B. Crewe, VA 23930. (804) 645-8816.

WANTED — Communication receivers, 1930 and 1940 vintage, ie: RME, National, Hallicrafters, Hammarlund, Patterson, etc. Ward Becht. W6IRK. 625 Tufts Ave. Burbank, CA 91504. (213) 842-3444.

FOR SALE — 100's of radio items (radio, speakers, mags, etc.). Send SASE often for list (updated weekly). WANTED — Non-chrome Scotts, Wilcox Lab, Emerola and other radios from Michigan. Jim Clark. 1006 Pendleton Drive. Lansing, MI 48917. (517) 323-9595.

WANTED — McMurdo Silver radios. Also advertising, literature, photos, anything with McMurdo Silver name (circa late '20's to late '30's). Also would fellow selling McMurdo Silver test equipment at August '83 Burbank SCARS swap meet contact me. Still looking for all Atwater Kent tables of the "later" (1933-34-35-36) years. Arthur Axelman. 19652 Weeburn Lane. Tarzana, CA 91356.

WANTED — The following double-digit tubes: 11, 14-18, 21-23, 25, 28, 29, 40, 52, 54, 60-70, 72, 73, 86-88, 90-98. Need not be boxed. John Clements. 7310 Ensign Ave. Sun Valley, CA 91352. (213) 765-7651.

WANTED — Radio Retailing magazines of 1925 and Radio Industries magazines of 1929, 30, 31, 32 & 33. Also want unique horn speakers. A few things for sale. Send SASE. F. A. Paul. 1545 Raymond. Glendale, CA 91201.

WANTED — Radiola UZ-1320. Magnavox R3. Radiola Vocarola. 4 WD-11. Leutz Model C. Radiola RE and AR. Freed Eiseman FE15. Amplion AR19 and AR111 drivers. Have for sale or trade a Zenith 3R. Eddy Clement. 6585 Viau. Montreal, Que. H1T 2Y8, Canada. (514) 376-9026.

FOR SALE: Riders Manuals, Vols. I-I6 (I-5 abridged). \$90 set; Vols. 2,3,4 \$15 each; Vols. 6,8,13,14,15 \$7 each plus shipping. Solid state Re-broadcasters to play your old time radio programs on record or tape thru your old radios, \$12, includes shipping. Stan Lopes, I20I-74 Monument Blvd. Concord, CA 94520 ph. (415)825-6865

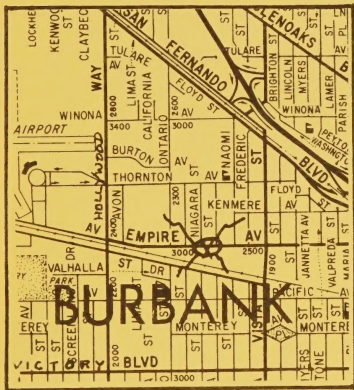
FOR SALE - Kolster 1926/27 console cabinet 52" H. x 27" W. x 17" D. Receiver opening 14 5/8" x 8 1/4" \$100. A. Johnson, 15312 Woodruff Place, Bellflower, Ca. 90706

WANTED - Early ham equipment, wire-less, tubes, etc. Urgently need audio coupler and audio transformer, 3:1. Also diagram and parts list for National AGS. Need FB-7 preselector and 2½ volt power supply for same. Ralph Earnstein. 18934 Celtic St. Northridge, CA 91326.

FOR SALE - Old radio tubes at OLD prices. Example: 71A's at \$3.75 each! Send SASE for the Dirt Cheap Price List before they're all gone to: Stan Lopes. 1201-74 Monument Blvd. Concord, CA 94520.

FOR TRADE - Kennedy 220 tuner with matching 525 audio amp. - Complete but needs to be restored. Vant blue, peach mirror or very unusual celluloid AC radios. Jim Cirner, 720 Stendhal Lane, Cupertino, Ca. 95014

Fred was extremely hospitable and opened his museum to us on a Sunday morning. The Patterson 10 and Breting 12 receivers were of particular interest to me, but the tube display was very orderly, enlightening and fascinating.



The May Gazette will feature an article on Gilfillan, details on the Pasadena Meeting, and Burbank meeting photos.

PUBLICATION DEADLINES

Deadlines for ads and articles for the SCARS Gazette are:

February issue December 15
May issue March 15
August issue June 15
November issue September 15

NEW MEMBERS

Axleman, Arthur	Tarzana, CA
Birbeck, Richard	Riverside, CA
Brams, Wm. Herbert	Berkeley, CA
Carroll, James	Saratoga, CA
Chimbole, Steve	Palmdale, CA
Clark, James	Lansing, MI
Dewes, Norman	Hollywood, CA
Dickson, Scott	San Diego, CA
Downer, James	Concord, CA
Eisenberg, Jerry	Tarzana, CA
Ferdock, Ronald	Bloomsburg, PA
Hill, Clarence	Van Nuys, CA
Jetter, B. George	Sierra Madre, CA
Koolman, Michael	Victorville, CA
Knight, Joseph	W. Covina, CA
Kramer, John	Costa Mesa, CA
Kingston, Abbe	Santa Barbara, CA
Morrison, Roger	Glendale, CA
Myers, Russell	Grants Pass, OR
Peacock, G. E.	Laguna Beach, CA
Rohoe, Charles	Richmond, VA
Rozenstraten, A.W.	Huntington Beach, CA
Russell, Richard	Palos Verdes, CA
Thomas, Denzel	Tulsa, OK
Wolf, Roberta	Los Angeles, CA
Wood, Joseph	Hodgkins, IL
York, Hart	Fontana, CA

LAST MINUTE NEW MEMBERS

Adams, Mike Venice, CA
Bender, Walt Crewe, VA
Guest, Barry San Diego, CA
Harbeck, Bruce Omaha, NE
Harris, Henry Orinda, CA
Heacock, Newell Dolton, IL
Jeffrey, Donald South Pasadena, CA

SCARS

SOUTHERN CALIFORNIA ANTIQUE RADIO SOCIETY

Membership Badge Order Form

Choose Style I or Style II and enter information in legible printing.
Indicate type of fastening device wanted.

STYLE I-name, city, state (abbreviated)



ATWATER GREBE

STATIC GULCH. CA

Full Name _____

City, State _____

OR

STYLE II-name, amateur radio callsign



ROY TUCKER

N6TK

Full Name _____

Callsign _____

Either style can be obtained with
a (1) black background with white
lettering or (2) white background
with black lettering. Please
specify choice.

Choose Style I or II, print what information you want on
that badge, select fastener style, add the club logo cost
(50¢), add the fastener cost of 25¢ if you choose clutch
or alligator clip and mail a check for the correct amount
to club Sec. Ed Sheldon, 656 Gravilla Pl., La Jolla, Ca.
92037.

- Select one Badge fastener
1. Safety pin (no charge)
 2. Clutch Pin 25¢
 3. Alligator Clip 25¢

Print: Name _____

Address _____

Total Cost

Style I or II \$3.50

Club logo \$.50

Fastener (add) ?

Total \$4.00 or \$4.25

Background colors (1) or (2)
(Circle your choice)